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PERSONAL NAMES AS PRE-LINGUISTIC SIGNS

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I have written the Master's Thesis myself, independently. All of the other authors' texts, main viewpoints and all data from other resources have been referred to.

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INTRODUCTION

This work aims to investigate the relationship between personal names and the evolution of natural language. My claim here is that personal names are signs that, when used vocally by humans, have very different characteristics than other linguistic elements, that necessarily precede the development of language, and that are intimately involved in the creation of circumstances contributing to that development.

Accordingly, it will examine the appearance and behavior of personal names in various semiotic systems in order to understand their relationship with those systems as well as their role in the development of such systems. It will demonstrate that these signs both precede language and contribute significantly to the circumstances leading to its evolutionary development.

The first part of this work will demonstrate that personal names occupy a unique position within human cultural and social systems, making them a strong candidate for investigation. It will then examine the behavior of names in linguistic environments, focusing on their semantic, syntactic, and semiotic characteristics. Here it will demonstrate that in many ways, personal names differ significantly from other elements of linguistic systems.

In order to firmly establish the pre-linguistic origin of these signs, it will then explore naming behaviors in nonhuman animals—where, it will be shown, they occur abundantly—and propose certain frameworks through which naming behavior may be understood across the biological spectrum. Personal names will also be shown to correspond with specific organizations of social systems and interindividual relationship structures.

Finally, the evolutionary consequences of these characteristics will be explored. Personal names will be linked to certain behavioral trends in various species in order to

establish patterns of behavioral influence which will then be considered in terms of the evolutionary conditions leading to the emergence of human language.

Delineating the Object of Analysis

As this work is essentially concerned with determining the nature of these signs, it is perhaps premature to offer a fully functional definition at the outset. As a useful definition must encapsulate all significant aspects of an object that establish it as unique, this entire work will serve as a definition of sorts. Nevertheless, one cannot set about an investigation without first limiting the scope by offering some preliminary definition which will serve as a starting point. I will therefore define *personal name*—at least for now—as any non-deictic sign denoting a specific, singular individual, and serving as a sign of that individual’s unique identity. As this work will endeavor to examine naming behavior in humans as well as non-human animals, I do limit the notion of ‘individual’ to individual humans, but rather apply it to organisms of all species.

Further examination in following sections will determine the extent to which the structure and use of human personal names corresponds with the structure and use of personal names in non-human animals. Of course, the definition proffered here relies on a steady definition of the organism itself, which is not easily provided, but it is my belief that an examination of the dynamics of names themselves might be useful in that task.

Thomas Sebeok (1994) describes names as a particular sign type worthy of mention equal to signals, symptoms, icons, indexes, and symbols. While he describes a name in general as “a sign which has an extensional class for its designatum” (Sebeok 1994: 37), here I employ a more narrow definition, closer to what Sebeok terms a ‘singular’ name, which “permits only one denotatum” (1994: 37). He also recognizes that names cannot be limited to the specific phonological realizations which would, in common parlance, be considered one’s ‘name’ (e.g. Veronica):

Human individuals are identified by verbally attestable namors, say, a personal name or (In the United States since 1935) a unique social security registration number; and by a host of non-verbal indicators, ‘the means by which a person, or dead body, may be definitely recognized, even in cases where the person purposely attempts to mislead’ (Wilder and Wentworth 1918: 5).” (Sebeok 1994: 37)

While this is consistent with the definition used in this work, Sebeok's first, wider definition is worthy of comment if only to avoid possible confusion. In accordance with the example supplied to demonstrate his 'extensional class' definition (i.e. Veronica), many personal names in many languages are shared by more than one individual—indeed designating an extensional class. Collections of particular phonological realizations have, over time, come to be used as something of a lexicon of personal names within various language communities. As a result, it is not uncommon to encounter more than one person who apparently share the same name, especially in a modern world marked by larger communities, more communication, and greater globalization than ever before.

According to the definition employed within this work, however, these people do not in fact share a name, as a name—by this definition—cannot be shared, or else cannot properly be considered a name. These people *do* share a particular phonological manifestation that is commonly used as their name in vocal communication. In common social interaction, their name may be used, but there is never doubt as to which person that name refers to within that particular social context. If there is a social situation involving two individuals who usually use the same phonological realization to serve as their vocal name, one or both of the names will sometimes be altered in order to maintain clear reference. In these cases, the altered form takes on the properties of a name itself, and is treated as such even in syntactic determinations (Anderson 2007). The altered name remains stable in this social context, avoiding any deictic characteristics.

Pre-Linguistic Signs

Explicitly stated in the title of this work is not only its intention to deal with personal names as an object of study, but also the particular argument offered herein: a claim that names are 'pre-linguistic signs'. The nature of names as semiotic entities should be quite obvious, and in fact they are defined by their semiotic characteristics as such. In characterizing names as 'pre-linguistic', I argue that names are not of the same evolutionary origin as linguistic systems, but rather precede them both structurally and evolutionarily.

What is also contained herein is evidence that names are less linguistically and semiotically developed than other elements of language, both in terms of modes of reference and of use, and furthermore, that they must be. That is, these qualities are determined by their very nature as names. These unique semiotic entities are traced back to their pre-linguistic roots—pre-linguistic in terms of historical appearance and the nature of their development. The essential expression of names—that of individual identity—is examined in terms of the forms and consequences of its appearance in non-human animals as well as the evolutionary pressures that would determine such behavior.

Notes on Human vs. Animal Semiotic Activity

Due to the nature of the specific claim being investigated in this work, the ‘boundaries’ between semiotic activity among humans and non-human animals will be a major focus.¹ Predictably, there are various philosophical and ideological issues that accompany such a comparison. For thousands of years, linguistic ability has been the determining characteristic of humanity. Drawing parallels between this bastion of human ‘reason’ and the ‘illogical’ realm of beasts was unthinkable. While most scholars today are willing to accept that humans are biological kin to our animal neighbors, linguistic ability is still often considered a far cry from any animal communication—and for good reason. There are many scholars—Thomas Sebeok among them—who would balk at any comparison of language and animal communication, claiming that their essential natures are so different that any comparison would be fruitless and methodologically flawed.

As previously stated, this work intends to draw parallels between name use in humans and non-human animals. While this would seem to contravene the warnings of Sebeok and his cohorts, I believe the claim that names resist full participation in linguistic systems allows these parallels to be drawn without clarifying the status of the relationship as it applies to language in general. Since I intend to show that names are of a different origin than language, I feel no obligation to restrict myself to limits placed on the investigation of linguistic systems in general.

¹ That is, if these boundaries are claimed to exist, the extent of which is a matter of debate encompassing a multitude of data from many fields.

Historiography

The history of the investigation of personal names by numerous scholars in various fields is largely limited to personal names as they apply to humans, and is much too long and complex to be covered here in full. It would take many volumes to provide a truly satisfactory account. Care must also be taken here to avoid confusion of the terms that are often translated into Modern English as ‘name’. The study of names far precedes the current form of this language, and terms in other languages that are translated as ‘name’ often encompass a great deal more, such as ‘noun’ or ‘word’ in general. That English provides these different terms as a built-in mechanism for distinguishing between these concepts is a blessing for this work, but care should be taken in considering sources in other languages that make no such distinction at a lexical level.

In fact, a history of the study of personal names is complicated not only by the frequent lack of terminological distinction, but also by a lack of ontological distinction. Therefore, a history of personal names, as they have been treated up to this point, is often simply a history of the study of language in general. This is decidedly different from the approach taken in this paper, which intends to examine names as distinct entities sometimes embedded in—but essentially separate from—linguistic systems. In pursuing this task, I will consider perspectives from many different disciplines, and so will provide historical information on these fields where applicable (e.g. when considering the various historical traditions accounting for the semantics of proper names). Since the approach here is so multidisciplinary in nature, it makes the most sense to address any relevant historical approaches within the sections to which they relate.

There are some general approaches that have been taken in the past towards the study of human personal names, perhaps the most prominent among them being onomastics, the philosophy of language, and linguistics.

Onomastics is generally concerned with the particular manifestations of names and how they came to take the form they did. Main research areas include the etymology of names, various systems by which they are created, and the use of various forms. As this work is not at all concerned with the specific manifestation of personal

names (as is explained in the section covering methodology), onomastics has little relevance for this project.

The philosophy of language has offered numerous viewpoints on both the origin and meaning of names, the most relevant of which are covered in subsequent sections.

There is not an extensive history of linguistic approaches to the study of names, and this approach also proves to not be very useful for this project, as personal names alone are rarely the object of analysis.

Perhaps the approach most relevant to this project is the examination of the presence of names in nonhuman animal species, which also proves to be fairly recent and quite underdeveloped. The genesis of this approach is frequently identified as Sebeok:

Next year, there appeared a fascinating and amply circumstantiated study by Hediger, on "Proper Names in the Animal Kingdom," in which the great animal psychologist remarked that "The word proper name (*propri nomi*) for animals was probably first used by Sebeok" (1976:1360). (Sebeok 1986: 82)

So any consideration of the use of personal names in nonhuman animals is a fairly new field of research, the full potential of which is certainly yet to be realized. Hopefully, this project can offer a small contribution to this ongoing endeavor.

Methodological Considerations

This work will deal with names as a particular signform, examining their structure and function within various semiotic systems. It will be concerned with the nature of names in general, and will not will not be concerned with the particular manifestation of proper names (i.e. their etymology, frequency, etc.), except where the consideration of such would shed light on their general nature. It will not address the multifarious naming systems at play in different human cultures except to comment that they function according to the social standing of the holder of the particular name, be that standing effected by genetic relations or cultural constructions.

I will consider various data from accounts of naming behavior in both humans and non-human animals collected by linguists, biologists, anthropologists, and others in order to provide a theory of names as a unique sign system. I will examine phenomena they arise from and give rise to, with particular focus on linguistic and evolutionary implications. My primary viewpoint will be a linguistic one, but that cannot ignore the

contributions of other fields in order to form any kind of adequate analysis. An account of naming behaviors in non-human animals will be of particular importance here, especially given the nature of the object in question, which I will argue is not linguistic in nature, but rather appears in various forms across the biological spectrum.

1. PERSONAL NAMES IN HUMAN SEMIOTIC SYSTEMS

This section will examine the behavior of names in human semiotic systems. Within this section, unless otherwise noted, the term *personal name* is used in a more limited way than defined above. Here it will be used to indicate the semiotic entities which we most commonly associate with names—that is, the particular signs that we actively and consciously use to indicate ourselves. While I sometimes employ the term *human vocal name* to designate this category, I do not mean to limit their form to instances of vocalization, although a vocal manifestation is probably the oldest and most common expression. Thus I include other forms such as written and sign names (in deaf communities), to which the same observations typically apply.

It is not difficult to determine that personal names permeate our semiotic experience. They are an essential element of many social interactions, are commonly used in linguistic contexts, and have taken on a special cultural significance. They are the ultimate extension of human identity. Knowing someone includes knowing their name, and a name is often the first information offered upon meeting a stranger.

This has become particularly important in the modern world, as increasing globalism and a growing population means we are living in much larger communities, interacting with many more people than ever before, and communicating with people over enormous distances. More and more we are known to others by our name alone.

1.0.1. Notes on the Universality of Human Vocal Names

Human personal names are generally considered to be universal. This is often seen as so essential to human behavior that comment is unnecessary. However, there seems to be very few documented cases of groups of people lacking personal names, although the circumstances here are rather unclear.

The most specific account of a people apparently without names comes in the form of a thesis written based on fieldwork done with the Machiguenga² tribe of the Amazon in 1952:

Each individual mentioned was described as either the relative of the speaker or the relative of some other individual referred to either by a kin term or by a descriptive phrase such as ‘the one who came yesterday’, etc. We learned that we had to know exactly how each person was related to every other person, not only in the immediate group but also in the other groups with which contact was maintained, if we were going to be able to actively participate in the conversations. At the same time, we endeavored to elicit the names of various individuals. The usual response we received was tera nompaitempa ‘I’m not named’, mameri nobairo ‘my name doesn’t exist’, or tera ‘no’. This led us to wonder if they were deliberately withholding their names from us as outsiders, if perhaps the use of personal names was taboo, or is they actually did not have names. (Snell 1964: 18-19)

This is a very unusual discovery, and even Snell admits that “We had never heard of a group of people where individuals were not given personal names” (1964: 19).

It is interesting to note that the replacements used in the supposed absence of personal names involved recourse to description or deixis, which involves a form of reference significantly deviates from that of names.

The veracity of the author’s claim that personal names were entirely absent in the Machiguenga is unclear. There is a strong possibility here that names were avoided due to strong taboos, which are not uncommon when dealing with naming behaviors, as is discussed in subsequent sections of this work. Snell himself suspects this (as evidenced by the above statement), and mentions that among the Piro, a tribe of the same cultural group as the Machiguenga and residing nearby, “The use of names is generally avoided” (Matteson 1954, qtd. in Snell 1964: 19). While the wording here seems to indicate a mere preference on the part of the Piro, the consequences of breaking name taboos can be serious:

One of our colleagues who was working with the Amarakeri had alerted us to the possibility that the attempt to elicit names could have serious repercussions. His own life had been threatened when he unthinkingly played a tape for the Indians on which there were names of deceased Amarakeri relatives and companions. (Snell 1964: 19)

Although the Machiguenga did not seem to provide names for themselves, the author notes that “many Machiguenga had been given Spanish names by outsiders” (Snell 1964: 20), but also that “Even when the name was well known by all members of the immediate group they would not use it among themselves and would use it when talking to us only after having exhausted every other means they could think of in trying to

² The name of the tribe, given here and in the aforementioned work as ‘Machiguenga’, seems to appear in a variety of different spellings. Within this work I will consistently use the variation above, as this is the form used in the work which has the most relevance for this paper.

make us understand about whom they were talking” (Snell 1964: 20). Note here that names serve as an important recourse in the process of referring to an individual.

In addition to these Spanish names, Snell makes an interesting comment that hints at some kind of pseudo-naming behavior, the nature of which was never made clear and seems to not have been fully investigated: “Later on in the course of our investigations, we discovered that individuals were referred to by terms which were neither kin terms nor Spanish derivatives” (Snell 1964: 21). It is not clear what these terms are, nor when they were used. While they seem to possess many of the features of personal names, more data is needed to determine their exact nature and function within Machiguenga society.

That these ‘names’ were not apparent to the author as names seems to be due to the fact that, as the author discovered, people almost never divulged their own appellations; a more fruitful method of inquiry was elicitation from friends and relatives of the individual in question (Snell 1964: 21). Only a minority of the Machiguenga had these ‘pseudo-names’, however, so the claim that a universal naming practice was absent in the tribe is still tenable considering this evidence.

It is interesting to note that the establishment of bilingual schools among the Machiguenga by the Peruvian government forced the registration of each individual and the imposition of personal names—including surnames (Snell 1964: 23). This harkens back to Sebeok’s (1994: 37) characterization of state-imposed individual labels, such as personal registration numbers, as a form of name regardless of the form they take.

Nevertheless, neither names imposed by outsiders nor the mysterious ‘pseudo-names’ that originate with the Machiguenga themselves are applied to all individuals, and Snell notes that “We have known Machiguenga Indians who reached adulthood and died without ever having received a name or any other designation outside of the kinship system.” (Snell 1964: 24)

It is important to note that while the kinship terms used to indicate individuals among the Machiguenga do indicate a specific, singular individual, when they are used, they are deictic in nature, and therefore cannot be considered examples of personal names. The fact that the same kinship terms are presumably used by different members of Machiguenga society to indicate different people (and that the correct referent of those terms differs depending on the context of their utterance), clearly indicates that they are very different from personal names in their referential nature. The proper

referent of a personal names cannot and does not depend on context. It is this property of names that determines their unique status differing from all other vocal utterances.

Perhaps relevant in accounting for this rare phenomenon, if the phenomenon itself indeed exists, is Snell's proposed explanation: "Living in small isolated groups there is no imperative need for them to designate each other in any other way than by kinship terminology" (1964: 25). That particular social circumstances or environments can lead to certain naming behavior that is deviant from an apparent norm is an interesting concept that will be explored further in some following sections.³

1.1. Cultural and Social Systems

As I intend to argue for a special place for names in linguistic systems, it is reasonable to expect that names also occupy a special place in cultural and social systems. According to the cultural semiotic paradigm of the Tartu-Moscow Semiotic School, culture is classified as a secondary modeling system built on language as the primary modeling system. Therefore, if names occupy a unique role in linguistic systems, one would expect that to be reflected in cultural systems, and an examination of names in that context will be required.

In the tradition of cultural semiotics, Juri Lotman and Boris Uspenski dedicate a well-known and oft-cited work to the role of names in their model of cultural consciousness (Lotman & Uspenski 1978). Therein, they identify names as belonging to a certain division of culture that is referred to as 'mythical'. This particular division is opposed to the 'historical' cultural consciousness, which is predominant in our usual modern understanding of the world. They examine the nature of these two models and the behavior of various semiotic systems within them, and conclude that

The behavior of proper names in a number of linguistic situations is so different from the corresponding behavior of other linguistic categories that it involuntarily suggests the idea that before us, incorporated into the body of natural language, is some other, differently structured language. (Lotman & Uspenski 1978: 215)

I claim a similar conclusion in this work, albeit from a different perspective and examining different data. Their conclusion here is relevant, however, in that it

³ This mirrors some controversial claims about the Pirahã language made by the linguist Daniel Everett. He has claimed that Pirahã lacks many features that are often considered universal and essential to human language. He proffers a theory that language, as a cultural tool, is highly adaptable to cultural needs. The Pirahã, having no need to express several concepts, lack the ability to do so. (Everett 2005, 2008, 2012)

demonstrates that the recognition of names as semiotic entities that defy linguistic categorization is pervasive at all operational levels.

1.1.1. Kinship and Individuality

The study of kinship terms has long been a popular pursuit among anthropologists, whose work is based on the assumption that particular modes of labeling certain individuals reflects a certain social organization. I intend to show the same for personal names, although that will require comparison with social organizations based on an absolute lack of personal names—something only observed in certain species of nonhuman animals.

Clearly, a system of personal names is quite different from a system of kinship terms—most clearly because the former has none of the deictic character of the latter. Also, categories of kinship are just that—categories—whereas personal names reflect a completely different social reality.⁴

While kinship terms typically demonstrate traits of familial organization, the possession of a personal name identifies the individual as an individual, not part of some kin-oriented category. So while kinship terms determine a person's place within a social subgroup, a name establishes a person as an individual and provides the basis for their operation as a social actor. Without a name, the individual is not only unable to participate in the kinship groups expressed by kin terms, but also is unable to participate in any aspect of sociality at all. Social interaction is entirely dependent upon the social agency conferred by such a name. Without kinship relations, an individual is, in theory, still able to participate in human social systems, but that participation itself already assumes the existence of a personal name (in some form) for that individual.

Quite recently, certain indications of kinship have been added onto personal names. The particular forms this takes and the various systems producing them are not my concern in this work. The fact that an indication of kin affiliation has been placed with personal names, however, reflect the close relationship between both of these systems and the social organization of a group of people.

⁴ For these reasons, the use of kinship terms among the Machiguenga is not at all equivalent to the use of personal names.

The most common manifestation of this is found in the surname, typically passed from parent to child according to some particular system determining such a conferment. It is interesting to note that the original form of many of these surnames convey a certain social standing or certain social role, which accentuates the strong connection of names with sociality. However, the name in this form is not a proper personal name, for it does not refer to an individual, but rather to a larger, less specific social determination. Unsurprisingly, surnames do not possess the same semantic and syntactic characteristics of proper personal names.

It is important to note that within certain social interactions, the phonological realization of the surname becomes an individual's personal name. For example, it is not uncommon in certain professional environments for people to refer to one another using their surnames alone. In this case, the surname clearly becomes a personal name in its function, and adopts all of the particular characteristics of that signform. While this particular form of the individual's personal name may not be the one determined by law or tradition, it is established as a personal name by use as such, which, in turn, determines its semantic and syntactic properties.

1.1.2. Naming Taboos

Taboos, or the culturally determined regular and powerful avoidance of certain actions, are a good indication of the elements that have increased importance in cultural systems. Adhering to taboos can be quite inconvenient, but the cultural values determining such practices are considered so important that the violation of a taboo can hold serious consequences. The avoided behaviors prohibited by such taboos can therefore be identified as culturally significant.

Taboos on particular instances of name use are among the most common taboos found in cultures all over the world:

Name avoidance practices are among the most frequently mentioned sociological phenomena in world ethnography because they are cross-culturally widespread and are a focus of strong reflexive interest on the part of people who practice them. (Stasch 2011: 102)

These taboos are so widespread and are governed by so many different rules and formulas that a complete description of all behaviors and practices cannot be accomplished here. Therefore, I endeavor to provide some idea of the wide range of

these taboos and the underlying cultural determinations present in the communities in which they are observed:

The tabooing of personal names is a frequent and rather salient phenomenon, showing up time and again in ethnographic descriptions. Taboos on saying the names of various categories of affinal kin are the most widespread, being very common in Melanesia (see Simons 1982 for a survey), Australia (e.g., Thomson 1946 on Wik Monkan), as well as diverse parts of Africa (e.g., Irvine 1998 on Zulu, Treis 2005 of Kambaata, Mbaya 2002 on Oromo). In much of South Asia, it is normatively expected that women shouldn't utter their husband's name (e.g., Trawick 1996:95 on Tamil). In the Americas, taboos on uttering the names of the dead are probably those which are the most elaborated (e.g., Elmendorf 1951 on Twana). Taboos on naming a big-man, chief, or king are also widely reported (e.g., Raum 1973 on Zulu, Frazer 1958 on Maori). (Fleming 2011: 142)

The majority of name taboos occur in relation to the death of particular individuals, and one of the most common taboos associated with the use of personal names prohibit the naming of the dead. This is quite a widespread taboo, found in various tribal societies from Australia to North America (Frazer 1922). This prohibition may be permanent or temporary, and may apply to only certain groups within the larger community (e.g. the close family of the deceased) (Frazer 1922, 1990). McGrath and Phillips, observing name avoidance taboos in different Australian Aboriginal tribes, note various different practices:

Sometimes immediate family doesn't use the name, sometimes it is not used for a few years, sometimes it is never used again for that person but a child is named the same name a few years later. (McGrath & Phillips 2008: 64)

Some participants indicated that the deceased's name should never be mentioned again, although others reported that the deceased's name need only be omitted from mention for a short period of time. (McGrath & Phillips 2008: 64)

Some taboos associated with the dead also affect the form and use of names indicating individuals who are still alive. For example, the Tuaregs, a nomadic Berber people living in the Sahara, avoid the Arab tradition of adding to one's name the names of the individual's patrilineal ancestors since the names of those who are deceased cannot be uttered again (Frazer 1922). In some Australian Aboriginal tribes found near Adelaide and Encounter Bay, those who share a name with someone who is recently deceased abandon that name and adopt another (Frazer 1922). These are not uncommon practices, and the extent to which the names of the living are manipulated in the face of a death is extremely variable. Perhaps the most interesting case can be found in the Mbayá, an indigenous group of Paraguay. On the occasion of a death within a Mbayá tribe, the names of every living member of that tribe are taboo and are replaced by the chief, so that the name of a living individual changes whenever anyone dies (Frazer 1990).

These prohibitions will also sometimes apply to other words in the language that are phonetically similar to the name, with the result that certain words in these languages may be replaced permanently with a borrowed word from a neighboring language:

The Abiponian language [the Abipones were a tribe of South American Indians, now extinct] is involved in new difficulties by a ridiculous custom which the savages have of continually abolishing words common to the whole nation, and substituting new ones in their stead. Funeral rites are the origin of this custom. The Abipones do not like that anything should remain to remind them of the dead. Hence appellative words bearing any affinity with the name of the deceased are presently abolished. (Jesuit missionary Dobrizhoffer, qtd. in Tylor, qtd. in Scott 1912: 361-362)

This process is sometimes so widespread that some linguists suggest that comparative reconstruction of these languages is nearly impossible due to the large degree of lexical replacement (Dixon 2002). The avoidance of homophones and near-homophones is perhaps an expression of a particularly strong taboo that leads not only to the avoidance of those words which refer to the particular person, but also any words that bear an iconic resemblance to those words:

Within the Peircean framework of type/token relations (Peirce and Welby 1977) we would say that this represents a movement from avoiding all tokens of the taboo type to a broader avoidance, of all tones (or 'marks') of tokens of the taboo type [...]. That is, the material substance of the sign, whether phonetic, graphic, or gestural, need only be (taken to be) iconic with tokens of the taboo type for them to be avoided. (Fleming 2011: 155)

The motivation behind name avoidance taboos related to the deceased seems to be primarily a concern that the utterance of the name will call the deceased back to the land of the living, a place where he or she should not be (McGrath & Phillips 2008).

Of course, name avoidance taboos are not wholly limited to the arena of death, and may form an important part of the normal social activities of a community. The rules governing these forms of the taboo also take on a variety of forms.

A man will not utter his own name; husband and wife will not utter one another's names; the son- or daughter-in-law will not mention the name of the father- or mother-in-law, and vice versa; the names of chiefs may not be uttered, nor the names of certain other persons, nor of superhuman beings, nor of animals and things to which supernatural powers are ascribed. (Tylor *Early History of Mankind*) qtd. in Scott 1912: 361)

When examining the particular cultural dynamics governing name taboo behavior, Fleming (2011) attributes the underlying cause of these taboos to the particular semiotic structure of names themselves:

I argue that the referential indexical function of personal names, characterized by the unique manner in which personal names pick out the same referent across all occasions of use, serves as a model and motivation for the elaboration of the nonreferential functions of name taboos (i.e., their ability to cause offense, harm, shame, etc.). (Fleming 2011: 143)

Personal names are social indexicals, the indexical connection having been forged in a baptismal event. The successful use of a personal name presupposes that both speaker and addressee have been socialized to this name-referent connection. They are links in a speech-chain which connects that initial baptismal event to the present instance of referring. (Fleming 2001: 145)

Kin-terms are semiotically motivated to serve as more deferential address forms precisely because, being true symbols, they are not, in their default usage, inherently referential. (Fleming 2011: 145)

In the work of Stasch (2011), this characteristic of names is shown to be the motivation behind name avoidance taboos in the Korowai of New Guinea, who replace names with “kinship terms and kinship-based expressions emphasizing people’s location in social bonds” (Stasch 2011: 114). As such, the avoidance of personal names serves to highlight the deictic nature of the kinship terms that are used in their stead, emphasizing the relationship between in-laws:

This paradoxical logic of indexically creating relatedness by non-relating not only sharpens bonds that already exist, but also creates relations in the first place, or creatively redefines them. (Stasch 2011: 106)

In these cases, an avoiding speaker indexically carries the interactional presence of a relational other everywhere, much in the same way that a wedding ring in certain societies works indexically and iconically to make a spousal relation part of a person’s bodily presence in all times and places, even when the spouses are not themselves together. (Stasch 2011: 107)

Here, the use of deictic terms instead of names serves as a form of extended cognition, offloading the relationships between people onto particular forms of individual reference. The use of deictics emphasizes that the speaker and the referent have a certain location in the social matrix relative to each other. The fact that this deictic replacement of names frequently appears in the context of reference to in-laws is telling, as an in-law relationship is more closely defined by a constructed sociocultural contract rather than genetic relatedness.

Stasch (2011) also observes that, among the Korowai, the violation of name avoidance taboos is just as meaningful as the avoidance taboo itself, and serves as an attack on the relationship between the referent and the utterer. If a name—that which directly and non-deictically refers to a certain individual—is used instead of the replacement kin term—which refers deictically—the utterer can express that the relationship establishing the deictic reference is being insufficiently maintained.

Korowai purposefully transgress avoidance norms often, and with rich expressive motives and effects. For instance, a married man’s in-laws will sometimes take to saying his name deliberately among themselves as a way of expressing discontent with him for failing to visit them and help with house-building or garden clearing, or failing in other ways to enact an appropriate sense of ‘abiding obligation’ (Merlan 1997). The maligned man is likely to hear secondhand about the name uttering. He might take it as a provocation to improve his actions, or the transgression might become a further step in the deterioration of in-law relations into open

disparagement. Mothers-in-law are sometimes known to deliberately sneak a glance at sons-in-law who have not been giving appropriate bridewealth as a performative statement that the mother-in-law relation does not really exist. The mortified son-in-law is likely to improve his gift-giving, when he hears about the violation. (Stasch 2011: 110)

Not only does a violation of the taboo indicate a deterioration of constructed kinship relations, but also may do physical harm to the person whose name has been uttered inappropriately (Stasch 2011). Due to the “referential indexical” nature of the name, it is often interpreted as having a direct physical effect on its referent:

The ‘timeless’ indexical relation between form and referent models and motivates a similarly immutable performative relation between form and referent which, in cases of taboos, must be avoided. There is a strong semiotic functional motivation for the inherent and invariant indexical relation between form and referent to be re-analyzed as a causal and performative one. Indeed, in cases of name taboos, the referential indexical function of the noun-phrase type serves as a ground, and site of semiotic exaptation, for a nonreferential performative function which, in some cases, all but supplants it. (Fleming 2011: 151)

Words Korowai avoid are experienced as particularly troubled and troubling studies in linguistic signifiers’ capacity of ‘making present’ absent signifieds. Lexical avoidances at large are part of a broader family of problems in the morality of representations. In different cultural and historical settings, and focused on different semiotic media, people experience a seemingly separate referent as being ‘there’ in the representation itself, not just semantically but ontologically, such that the representation is felt to have powerful effects on the referent or on the representation’s producers and audiences. Korowai lexical avoidances often involve a form-fetishistic notion that there is a direct, non-semantic path from the physicality of a phonological signifier to the physical being of its referent. (Stasch 2011: 112)

This not only accounts for the avoidance of names in instances of living persons, but also of the deceased. If names have such a strong connection to their referents—strong enough to have physical effects on those referents—then uttering the name of the deceased could have some very unfortunate consequences that should be avoided. The dead should remain in the region of the dead, and if there is some task they must undertake to achieve rest, their ability to complete such a task should not be hindered.

It seems that these name avoidance taboos are not only indications of the importance of names in cultural systems, but also the unique place of personal names within linguistic systems. The nature of personal names seems to differ drastically from all other language, and these special indexes are seen to establish a much stronger connection with that to which they refer. Personal names in this context are “one special area of interface and overlap between a linguistic sign system and the more broadly constituted actors who use that system” (Stasch 2011: 114).

1.1.3. Reflection of Social Status

It is no surprise that names often reflect the social status of their holders. An interesting consequence of this is that when acts of naming become ritualized—and this is a very common occurrence given the importance of personal names and the need to consolidate naming behavior in order to safeguard social structures—they occur during rituals which confer a different social status upon their participants. Consider four major ritual events that conform to this pattern: birth, coming of age/initiation, marriage, and death.

Birth represents the first entrance of an individual into the social system. Since existence is a prerequisite of sociality, and humans live in social groups, the biological event of birth is expected to represent a significant social event for the individual. This is supported by various naming events associated with birth, which may even be accompanied by a separate naming ceremony (as in various religious communities such as the Jewish Brit milah or the Catholic sacrament of Baptism).⁵ That a conferment of a name occurs in conjunction with birth is so common that further demonstration is utterly unnecessary.

The ritual event known as ‘coming of age’ often represents the next major change in social status. It is common for cultures to make a distinction between children and adults, and the transition from the former category to the latter is often marked ritually. Another variant of this transition is initiation into some exclusive group or organization. In this case, the ritual marks a transition from a state of uninitiated/non-membership to a state of initiated/membership. This ritual often involves the abandonment of a childhood/uninitiated name and the adoption of a new name accompanying this new status. Once again, remnants of these rituals in modern Western society are found in various religious ceremonies in which special names are chosen (e.g. Bar/Bat Mitzvah and the Catholic sacrament of Confirmation).

Marriage has the same basic structure as coming of age/initiation, but represents a symbolic alteration/manipulation of genetic association. Marriage is the sociocultural construction of a relation that carries greater importance than any genetic relation that

⁵ A possible exception, of course, being the Machiguenga (Snell 1964). However, the author implicitly recognizes the relevance of these events in terms of names when he states in a footnote: “We have been invited to witness rites performed at birth, girl’s puberty, marriage, death, and burial. We are convinced that neither names nor any other designations have any part in these ceremonies.” (Snell 1964: 21)

may exist.⁶ As such, the name changes associated with marriage often involve aspects of the name that indicate membership in a particular genetic class (e.g. surnames) in order to culturally classify the relation as genetic even when one does not exist.

Death provides some of the most interesting manipulation of names, some of which are discussed in the preceding section on name avoidance taboos. Upon the death of an individual, a disruption suddenly appears in the social network of a group due to the absence of a formerly present element. A name, which once referred to a specific person, now refers to nothing at all, or at least nothing that can be accessed by the living. As a result, death causes a wide variety of name manipulation, many of which are discussed in detail above.

1.2. Personal Names in Linguistic Systems

In order to provide a full account of the nature of names in human semiotic systems, it is necessary to examine them in the context in which they most obviously occur for the human species—that of language. In order to properly accomplish this, I will make use of tools from descriptive linguistic analysis, the philosophy of language, and researchers into the specific semiotic characteristics that define human language in relation to nonhuman animal communication. Particular attention will be paid to semantic and syntactic systems, since these most clearly determine the state of names in language in regards to other elements. In these linguistic subsystems, the deviant nature of names is most evident.

While approaching names as elements of a linguistic system seems to contradict the aim of this work, in this section I do not claim to represent and examine names as a part of linguistic systems, but rather examine their behavior when placed in a linguistic context. My goal is to show that when placed in this context, names behave very differently than other linguistic elements. This is intended to not only support the claim that names are essentially pre-linguistic, but also shed light on some properties of names that will become important when considering their place in various semiotic typologies.

While personal names seem to resist the full participation in linguistic systems that is typical of other referential vocal utterances, they must conform to certain

⁶ Various taboos against marriage to close familial relations (parents, siblings, etc.) guarantee this.

restraints in order to be expressed in a linguistic context—constraints imposed by the language itself. The strongest constraints seem to be phonological, perhaps due to the fact that while syntactic and semantic properties are often semi-consciously flexible, phonological systems are clearly hardwired and alter the very perception of sounds themselves (e.g. categorical perception of phonemes). Consequently, human vocal names will often have phonological properties that are indistinguishable from other linguistic elements, while this is far from true for other linguistic characteristics.

An issue for examining personal names in a linguistic context is that they are sometimes difficult to distinguish from proper nouns—nouns that indicate not to a general category, but rather a specific referent. Certainly these signs are related in that they have similar referential qualities and similar syntactic properties, but they are not identical, and some differences do appear.

1.2.1. Syntactic Properties of Personal Names

The behavior of names in syntactic systems is essentially a question of lexical class (also known as lexical category, grammatical category, word class, part of speech). Lexical classes provide linguists with a model for classifying words in a particular language in order to reliably predict their behavior in morphosyntactic environments. Names are often a challenge to classify in this way, as they display unusual characteristics in these environments that render these predictions unreliable.

These lexical categories are particularly useful in providing the basis for modeling the structure of phrases in phrase structure grammars, which have been central to the most popular grammatical theories for hundreds of years. Accordingly, this section will make extensive use of phrase structures to demonstrate that names constitute their own lexical class—one that differs from every other lexical class in terms of syntactic function.

As phrase structure grammars can get quite complicated and become very diverse at their more developed stages, I will necessarily be employing a very simplified model. This will meet the needs of the observations examined within this section—as the unique characteristics of names are evident even in very simplified grammars—without confusing the analysis with unnecessary detail and complexity.

The determination of a particular word's lexical class depends upon its relations within the sentence structure, so that even words with identical phonological realizations can serve different roles within the sentence and therefore belong to separate lexical classes. For example, the English word *jump* may act as a verb indicating a certain bodily action, or it may serve as a noun indicating a particular instance of this action (either physically or metaphorically) or even a physical device aiding in the performance of that action. Clearly, the two uses are quite similar in their meaning and both can be used to refer to the same event with the same participants, as demonstrated in sentences (a) and (b) below:

(a) George and Mary jump over the stream.

(b) George and Mary make a jump over the stream.

These two sentences express the same action carried out by the same participants, but *jump* in the two sentences represents two very different uses of the same word. While in both sentences the referent is very similar, the syntactic role of the two words is very different. In sentence (a), *jump* functions as a verb and establishes a certain relationship—in this case one of jumping—between its arguments. It places these arguments in a particular syntactic and semantic relationship with each other. In sentence (b), *jump* functions as a noun within a noun phrase that functions as an argument of the verb *make*. In this case, *jump* does not extend any structural determination past the noun phrase in which it resides, although it is an important observation that it does occur within a noun phrase and has certain relationships with other elements of that noun phrase.

The above examples demonstrate that in the process of determining a lexical class, the referent of a word is much less reliable than its distributional characteristics. Therefore, when considering the linguistic realizations of personal names, it is useful to favor their actual behavior in syntactic environments more than their superficial semantic resemblance to other lexical items. This is particularly important when considering the relationship of personal names and the lexical class with which they are most commonly associated—nouns.

Some linguists have expressed doubts as to whether names can be distinguished from nouns at all (Jespersen 1924: 69; Pulgram 1954: 42), and the lexical class “noun” is the first suggestion of Anderson (2007) in his investigation into the matter:

Does use as a name correlate in any way with membership of a grammatical category, and, if so, what is the place of that category in the language system? Is it, for instance, appropriate to regard names as a subcategory of noun? (Anderson 2007: 6)

There is, however, considerable evidence to suggest that names form a distinct category even if their referential function within syntactic constructions is, like nouns, one of indicating the argument of a verb.

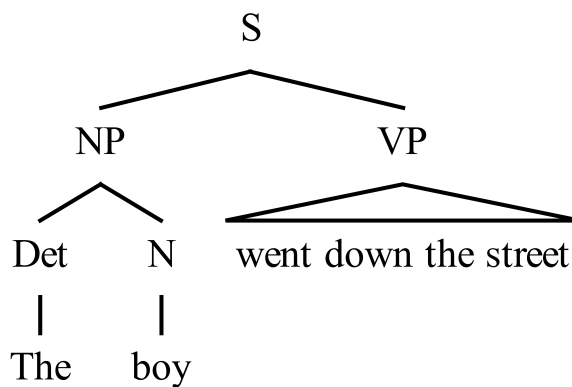
Perhaps the most salient syntactic feature of names is the fact that they function as complete noun phrases instead of singular words within those phrases. This quality has been observed by several linguists (Montague 1973; Anderson 2007), and Pamp (1998: 252) uses the term *monoreferential lexicalized noun phrase* in recognition of the fact that names represent an unusual instance of what is apparently a lexical item functioning syntactically as a complete noun phrase. This is demonstrated by the following examples:

(c) The boy went down the street.

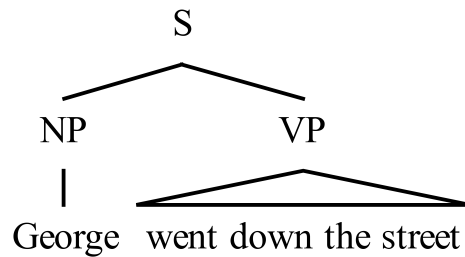
(d) George went down the street.

The simplified phrase structures of the above examples are shown in the diagrams below:

Sentence (c) (*Fig. 1*):



Sentence (d) (Fig. 2):



In sentence (d), the name *George* is seen to occupy an entire noun phrase, whereas *boy* in sentence (c) is a noun which functions as a constituent of a noun phrase. This is a significant difference in syntactic behavior which is a defining syntactic feature of a name.

When used as a ‘lexicalized noun phrase’, a phonological realization is interpreted as a name, and any name not used as such is not realized as a name in the interpretation of the resulting syntactic form. While Anderson uses *name* to mean ‘proper noun’, his observations are still apropos:

The use of *George* as a non-name is marked syntactically as a conversion or by affixation, as with *the George I used to know* and *a Georgian house*. Similarly, other categories, or sequences of categories, can be converted into names, and this can lead to ambiguity of use. In this case in English there is often recourse to capitalization, so the *The New Town* is a name for an area in Edinburgh (whose buildings are no longer very new—which raises another issue), whereas *the new town* is simply a noun phrase. Confronted with the typical cases, in particular, it is difficult to avoid the conclusion that there is some kind of difference in syntactic category between name and noun, marginal though it may seem to many investigators. (Anderson 2007: 17)

Use of restrictive modification of an apparent name form reflects conversion to noun (§5.4), just as the presence of the articles in the above examples of Giering et al. (1980) correlate with conversion to or from nouns. Such structures can themselves become names, of course—as with *Young Fred*, who indeed may no longer be young—and there may at this point be no reference to *Old Fred* (dead and/or forgotten). (Anderson 2007: 19)

These indicator of article use points to participation in a noun phrase structure, and may be somewhat useful in distinguishing personal names from proper nouns (if such a distinction is claimed to exist in the context of syntactic properties).

While a personal name such as *Old George* (in this case functioning as a personal name) still resists determination imposed by noun phrase structure in syntactic environments, similar proper nouns such as the *Old Bailey* (a particular court in London) frequently require such structures (as indicated by the presence of the definite article *the*). Compare the examples below:

(e) I saw Queen Mary today.

(f) I saw the Queen Mary today.

In sentence (e), *Queen Mary* is a personal name referring to a particular person (perhaps a monarch or a performer of some kind), while in sentence (f), *Queen Mary* is a proper noun referring to a particular ship permanently moored in Long Beach, California. As a proper noun, the *Queen Mary* in sentence (f) is a constituent of a noun phrase, so the determiner *the* appears, as is required by the rules governing the construction of such a noun phrase, whereas the *Queen Mary* in sentence (e) is a personal name which itself functions as a noun phrase and therefore appears without phrasal structure.

This is not, however, a consistently reliable indicator of a syntactic distinction between a personal name and proper noun, as there are several proper nouns that seem to behave identically to personal names (i.e. place names such as Boston, Africa, and Estonia). So perhaps a reliable distinction cannot be made on the basis of syntactic features, but there is at least evidence for some proper noun-like category that is syntactically distinct from other linguistic elements. Boundaries between lexical classes may sometimes be difficult to discern, but there seems to be sufficient evidence to motivate their classification in a distinct category:

There have been suggestions that names should be assigned to an onomasticon, distinct from the lexicon which contains (ordinary) words of all types, and even that names do not belong to language at all (Harris 1751; Strawson 1950). They certainly do not seem to be recognized as (composed of) instances of ‘the atoms of language’ (Baker 2001). For Recanati (1993) the category of names belongs to language, but, in some sense, as we shall see, individual names do not. (Anderson 2007: 15)

1.2.2. Semantic Properties of Proper Names

The semantics of proper names has been an issue for linguists and philosophers for thousands of years. Therefore, this section will necessarily be a brief and incomplete review of an enormous amount of scholarship impossible to cover completely even in many volumes. It will deal largely with analytical philosophy, as there is a multitude of scholarly work from this tradition dealing with the semantics of names (mostly due to the need for well-defined systems of logic). Its intention is to provide a background to the specific semantic properties that differentiate proper names from other linguistic signs. Note that here, the term *proper name* is used, which indicates a particular sign which refers directly to its referent without communicating any qualities of that referent.

While personal names (as used in this work) are considered proper names, there is no apparent useful criteria for distinguishing personal names themselves as unique.

There is a danger here of conflating natural language and logical languages created for the description and analysis of arguments. Certainly these represent two different types of systems with different characteristics. They are, however, closely related. Logical systems are built on natural language and originally served as a means for investigating the characteristics of natural language.

Similarly, natural language is very often analyzed according to principles of logical notation. Nothing demonstrates this more clearly than the current trend in compositional semantics, based on the work of Donald Davidson. It is interesting to note that in semantic theories built on Davidsonian principles, names are represented as irreducible while other elements of language are often subject to structural dissection based on semantic relations with the rest of the utterance. In fact, the simplified and strictly rule-governed environment of a logical language can be a useful tool as a sterile theater in which certain elements of language can be examined in detail. Names, being irreducible, irreplaceable, and therefore essential to both natural language and logical language, are a prime candidate for this procedure.

John Stuart Mill, who thought that names were not a part of language, identified the meaning of a name as lying entirely with its extensional referent (1843). If two signforms possessed the same, singular referent, then they were semantically equivalent. In this sense, my name indicates nothing about me other than I am a person and my name is x . Furthermore, if I also possessed for a name y , then x and y would be semantically and logically equivalent. This somewhat echoes Lotman and Uspensky when they state:

The general meaning of the proper name is essentially tautological: a name is not characterized by distinctive features, but only designates the object to which the given name is attached [...]. (Lotman and Uspensky 1978: 213)

However, Mill's theory was unable to account for many real uses of proper names, and as such was insufficient in the context of logical systems. Gottlob Frege, in *Über Sinn und Bedeutung* (1892), challenged Mill's theory and proposed that different names referring to the same person may have differing semantic structure. While Frege's concept of *Bedeutung*, or 'reference', indicates the referent of a name (or other word), *Sinn*, or 'sense', indicates the way in which a name refers to that referent. In doing this, it selects certain characteristics of the referent through which the reference is

established. This approach (of establishing reference through characteristics of the referent) is a descriptivist theory of names, a version of which was also adopted by Bertrand Russell (Kripke 1981).

According to the descriptivist approach, a name finds its proper referent through a set of qualities that the referent must possess. This essentially reduces names to something of a shortcut for a set of descriptive statements (hence the term 'descriptivist'). The proper referent of a name is whoever possesses the qualities described. This was the dominant theory of proper name semantics, but presented significant logical problems. For example, the theory left little room for the alteration of qualities in a referent, and was quite problematic when dealing with hypothetical situations.

The most well-known critic of the descriptivist theory is Saul Kripke, who argued in his seminal work *Naming and Necessity* (1981) that names refer to objects regardless of any qualities that the objects themselves might possess. He uses the term *rigid designator* to indicate the special status that these entities have with their referents. According to Kripke, names designate rigidly since they reach across different circumstances and establish identity without relying on particular qualities of the referent. While a description that picks out a certain entity (one that fits that particular description) could pick out any entity that meets that description, a name picks out the same entity each time, regardless of the qualities of that entity which may or may not match the description under different circumstances. Names, according to Kripke, establish *transworld identity*, so that in any possible world, the identity of a particular person is determined solely by their name and not by their qualities in that particular world. This is significant in the construction of hypotheticals, a process that encountered significant problems under a descriptivist theory.

Kripke's theory was a causal one, in which names derived this rigid designation through a 'baptismal' event at which identity was established, and then a chain of causal circumstances within a speech community maintained that identity through time. This theory establishes names as a powerful logical force and recognizes that they are very strongly referential in a way that many other terms are not.

Once again, this unique characteristic of names is a result of their use as such. In other words, no matter what particular set of sounds is used to refer to a particular entity, it will behave as a name. A word is a name when it is used as such, and at that time, it abandons most of its semantic similarities to all other lexical and semantic

categories. While this may not seem so significant in languages with determined sets of words that are heavily used as human vocal names, it is a noteworthy claim in languages that reappropriate common nouns for use as names:

At the opposite extreme, names derived from common nouns in a foreign language and nicknames that were once descriptive easily lose whatever sense they originally had. (Aichele 1997: 72)

Even the designated personal names in languages such as English once had meaning beyond simple reference, but they have quickly lost this through their use as names. Consider, for example, the English name *Alfred*. In the Anglo-Saxon language (also known as Old English), this name was composed of meaningful elements which, together, meant “elf counsel”. In Modern English these elements are no longer meaningful. The language has changed and yet the name has not. Since it was used as a name, it has lost its association with its original, meaningful elements and remained relatively unchanged for more than a thousand years, a period of time during which there was massive change in the rest of the lexicon.⁷ This represents such a radical departure from the typical semantic structure of words that the philosopher Paul Ziff (1977) declared that names were not a proper part of language at all.

1.2.3. Semiotic Properties of Human Personal Names

Scholars investigating the essential properties of natural language—especially those concerned with the factors differentiating human language from communication in nonhuman animals—often use semiotic concepts as tools for outlining such a distinction. It is useful, then, to consider personal names in this context, as it would elucidate specific characteristics of human vocal personal names that seem to suggest that they differ from other linguistic signs in their semiotic structure.

It is clear that human vocal personal names are theoretically quite conventional—as conventional or arbitrary as any linguistic sign. Of course, there could be certain restrictions on the actual form that names take based on various factors such as legal requirements, social norms, religious traditions, and naming taboos, to name a

⁷ That is, if names are considered part of the lexicon.

few,⁸ but all elements of language are subject to constraints that are similar, if not identical in nature.

However, in terms of their referentiality, they seem to not conform to the requirements of true symbolicity as outlined by many scholars focused on delimiting human language versus nonhuman animal communication. One of the main requirements for this property of symbolicity involves the relationships between different signs.

Consider Sinha's (2004) account of symbolicity. Here, a true symbol has the property of what is termed *construal* (taken from Langacker 1987), which entails logical relationships with other symbols in a sign system. According to Johansson (2005: 224), "Construal is a matter of connecting a symbol with other symbols in a network of *internal* relations, not through relations between their respective referents; cf. Saussure (1916)."

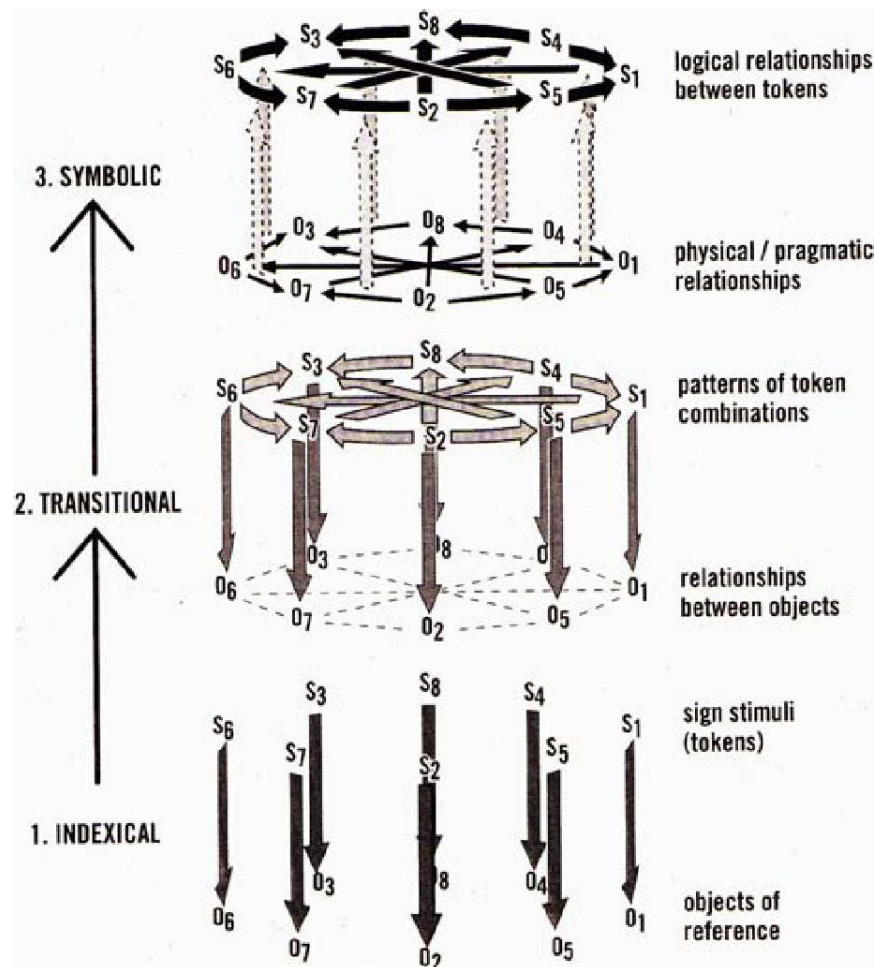
Deacon (1997) elaborates the distinction according to similar requirements, and his symbol, with regard to its referent, does "not simply to point to it or bring it to mind by association" (Deacon 1997: 50). Considering an experiment in which a pigeon was trained to communicate the opportunity to obtain food via an arbitrary signal to another pigeon, whose cooperation was necessary to actually obtain the food, he states:

To me, this experiment demonstrates the simplicity and mechanical nature of this form of reference. And how its key features—learned associations, arbitrariness, reference, and transmission of information from one individual to another—are not sufficient to define symbolic reference. (Deacon 1997: 66)

For Deacon, like Sinha, symbols can only occur in symbolic systems in which logical relationships between different signs maintain this quality of symbolicity. While indexical signs have a relationship of simple reference to objects they indicate, symbols exist in relationships with each other. This symbolic relationship is essentially an iconic relation between two indices (Deacon 1997: 8).

⁸ They are also subject to the same phonological constraints as other words (as opposed to their unique morphosyntactic properties, perhaps due to the fact that phonological systems seem to be inflexible cognitive constraints that even effect perceptual categories).

The diagram below, replicated from Deacon, illustrates the emergence of a symbolic system (*Fig. 3*):



(Deacon 1997: 87)

As shown in this diagram, the level of sign development identified as fully symbolic is characterized by strong relationships between symbol tokens to which the indexical relationships between these symbol tokens and their referents become secondary. In the process of the emergence of a fully symbolic system, logical relationships between symbol tokens become primary and essential to the maintenance of reference within this system. Deacon's caption of the above diagram indicates that

Individual indices can stand on their own in isolation, but symbols must be part of a closed group of transformations that links them in order to refer, otherwise they revert to indices. (Deacon 1997: 87)

This seems to stress participation in grammatical systems is an important indicator of symbolicity, one which is apparently more important than any relationship with an object of reference.

Words such as "that," "which," and "what" function to point to other words and phrases, but not to specific categories of meanings, and don't evoke mental images. Nevertheless, they produce

certain expectations about the grammatical structure of what is to follow that we recognize when they are violated. Though we hesitate to call these interpretants "meanings" in the same sense as for common nouns and verbs, they are functionally equivalent. Finally, consider the complicated mixtures of interpretants that are produced in response to whole phrases, sentences, and larger narratives or arguments. (Deacon 1997: 64-65)

The resistance of personal names to participate in the internal structure of phrases suggests that they are incapable of the full range of internal relations that Deacon uses to characterize human language. Certainly they are able to participate to some extent in these relations—they do, after all, participate to some extent at the sentence level as lexicalized noun phrases—but this participation is somewhat limited. Consider the quote above. There is a suggestion that, when considered at the phrasal level, the meaning elicited by language already involves “complicated mixtures” of meaning. Yet personal names, functionally noun phrases in themselves, have very simple semantic structure.

Personal names so differ from true symbols in their being inherently referential. The inherent reference of a personal name is predicated upon its indexical connection to its referent forged in an original and performative baptismal act itself replicated in each link of a speech chain which introduces the name and its associated referent to an ever wider community of speakers. Nevertheless, and despite this indexical dimension, personal names, like true symbols, are nomically calibrated. This is reflected in the constancy of their reference across token instances, even under reportive calibrations (e.g., even within reported speech constructions). (Fleming 2011: 149-150)

Furthermore, a personal name is entirely capable of preserving its referential structure in the absence of grammatical context. Unlike the verb *jump*, which was previously demonstrated to derive its status as a verb solely from its arguments in a fully formed syntactic structure, a name is a name simply by virtue of it being established as such. The fact that names non-deictically refer to specific individuals is, of course, a further deviation, as the norm is reference to a particular conceptual class, comprising a collection of various tokens bearing an iconic resemblance to some prototype (be that prototype a concept of a particular object, action, or relation). Names do not refer to any category or class relying on iconic relations to determine membership, but rather refer to individuals directly and indexically.

As we can see, then, personal names are a special kind of noun-phrase type, uniting the constant denotation of the truly symbolic nouns with the indexical denotation of shifters, anaphoric pronouns and demonstratives.” (Fleming 2011: 151)

Therefore, there is good reason to suspect that human vocal personal names are not entirely symbolic in the same way that other linguistic elements are. Their resistance to grammatical relationships, unique semantic qualities, and capability for constant reference regardless of context strongly suggests that their semiotic structure is more

closely aligned with Deacon's category of indexicality than symbolicity—or perhaps with some transitional state between the two.

Sinha (2004) provides the category *protosymbolic* as a convenient intermediate state. Protosymbolic signs are conventional and arbitrary, display joint reference, but are not fully integrated within a system of logical relations. This seems to be an appropriate characterization of personal names, and confirms that their place within linguistic systems is quite unique.

This conclusion is not surprising in an evolutionary context, as Deacon (1997: 45) identifies symbols as a “novel mode of information transmission into the evolutionary process”, and in this work I aim to demonstrate that personal names are an instance of a signform that is decidedly not novel. As personal names seem to lack the properties of fully formed symbols, and symbols are the distinguishing characteristic of the communicative and cognitive of humans, the ‘symbolic species’ (Deacon 1997), we would expect that there is a possibility of the appearance of personal names in nonhuman animal communication. This possibility is explored in the following sections.

2. A ZOOSEMIOTIC PERSPECTIVE

So far, we have dealt only with personal names as they appear within our own species, and only in the form with which we seem to have the most contact and experience—our vocal names. There is, however, an abundance of evidence to suggest that the use of personal names is by no means restricted to humans. As we will see, many of these instances of naming behavior in nonhuman animals are very similar to human name use, with the caveat, of course, that nonhuman animals are generally considered not to have nearly as complex communication systems as natural human language. Nevertheless, the use of what should rightly be considered names is painfully apparent in several species, and, as this work intends to demonstrate, is most certainly present in several more, even if not so apparent to the casual human observer.

In fact, this work intends to argue that personal naming behavior is essential and inextricably linked to certain social organizations, and that these social organizations are associated with various other characteristics of these species. Personal naming behavior is not simply a novelty found in a random selection of species, but is an essential part of social organization in general and a seemingly common semiotic activity in certain ecological niches.

2.1. Naming Behavior in Nonhuman Animals

Communication in nonhuman animals has an enormous variety of forms and purposes, many of which can be clearly identified as name use. We must take caution, however, in our labeling of certain communicative actions as naming behavior, as they may not always adhere to our specific definition of ‘name’. Issues of deixis are particularly relevant in this determination, as deictic signforms can easily be mistaken

for a more stable referential function. Care must also be taken to restrict the term ‘name’ to those signforms which retain a singular, stable referent.

Some forms of nonhuman animal communication are impressively complex, and this can often create problems for overzealous researchers willing to attribute certain characteristics that may not actually be present. Diana monkeys, for example, have been shown to not only indicate a state of alarm, but also the source of that alarm, ‘source’ here meaning not the physical location or even method of approach, but the identity of the species of the attacker. This determination is stable without dependence on the particular approach of the attacker. So if a particular predator is attacking in an unusual way, the alarm call will still indicate its identity (Zuberbühler 2000). While this is an impressive act of identification, it is in no way a name, as the referent is a general category (species) rather than a specific entity (individual). Also, personal naming behavior is almost always confined to conspecifics.

There are, however, numerous examples of actual naming behavior in various nonhuman animal species. Thorpe (1967), cited in Sebeok (1994, 1986), provides evidence that certain species of birds participate in personal naming behavior in their songs. These birds will perform antiphonal duets with their mating partner, each bird having their own tune. The two birds will take turns singing their tunes, combining them into a song which serves as an act of social bonding. These individual tunes, by virtue of their individuality, already serve as a unique semiotic communication of the birds’ individuality, which essentially would serve as a personal name in itself if it is interpreted as such.

The identification of a personal name, however, relies upon a certain sign’s use as such within the semiotic discourse of the species. What provides clear evidence that these calls function as personal names is the fact that they are used in what is essentially name calling behavior. In the absence of its mating partner, a bird will reproduce the unique, individual tune of its mate as though calling it by name, which will prompt its partner to return (Sebeok 1986, 1994; Thorpe 1967).

This is clearly a form of personal naming behavior, as the songs produced serve as stable indicators of the individual and are interpreted as such by conspecifics. That the tunes differ between individual birds and the apparent awareness of this individual reference—demonstrated by the ‘name calling’ behavior of the mate—establishes this fact beyond doubt.

Examples of name calling behaviors are not limited to these birds, and the use of personal names has also been observed in cats, dogs, and primates (Lawick-Goodall 1968, Rowell 1972, ctd. in Sebeok 1994). Some of the most interesting examples come from the behavior of cetaceans. The highly complex clicks, whistles, and songs of these highly social mammals have provided countless animal communication researchers with very promising data. There has been extensive research into the possible existence of what have been termed ‘signature whistles’ in whale species, especially dolphins (Backus & Schevill 1966, ctd. in Sebeok 1994; Tyack 1986, Janik & Slater 1998, Janik 2000, ctd. in McCowan & Reiss 2001; Janik et al. 2006; Tyack 2000). As their name implies, these whistles, so it is claimed, function very much like signatures or—in the terminology of this work—personal names. Not only are these whistles apparently unique to each individual, but they are also exchanged in a manner very similar to the antiphonal duets of the birds studied by Thorpe (1967).

Janik et al. (2006) provides an exhaustive study of the specific dynamics of these whistles, and demonstrate that, unusual among instances of animal vocal communication, the whistles of dolphins are influenced by what are clearly examples of vocal learning. Dolphins are also observed to copy each other’s names in the wild. This demonstrates not only the capability for complex vocal learning behaviors, but also the awareness of the referentiality of their own signature whistles. The social role of these names is also quite clear, and plays a large part in maintaining group cohesion.

These very clear examples of naming behavior are instances of what can easily be considered communication, but as we examine possible naming behavior in other species, there are several issues that make the identification of personal names much less clear-cut than the examples above. Even defining communication itself can sometimes lead to difficulties. As humans, we tend to judge all communication against our own communication, which, given the complexity and uniqueness of human language, seems potentially harmful to our understanding of sign use in some nonhuman animal species. In the next few sections, I will examine some specific issues in terms of nonhuman animal communication and personal naming behavior.

2.1.1. Referentiality

One of the criteria sometimes used to characterize the referential nature of animal communication is the ability of the animal to replicate communicative signs in the absence of their referent. Morford & Goldin-Meadow (2001) term this *displaced reference*, a term analogous to the *detached representation* (as opposed to *cued representation*) of Gärdenfors (1996). While all of linguistic communication is potentially (and most often actually) an example of this detached representation, the same cannot be said for all of nonhuman animal communication. In the examples mentioned above, the presence of detached representation should be clear. After all, the very existence of name calling behavior requires detached representation in order to actually be name calling behavior. There is nothing gained by calling out the name of an individual in the presence of the caller.

There are, however, examples of what can be considered personal names in animals that do not possess displaced reference.

In addition to acoustic names, it is well known that many birds also have optical names. Oskar Heinroth disclosed, as far back as 1938, that ducks, geese, and swans “know each other only by face which for us look all the same” (Hediger 1976: 1359). This is true as well for many birds of prey, cranes, jackdaws, and others, notably again including the ravens. (Sebeok 1986: 87)

We can assume that these optical or visual names are not used in the context of name calling behavior, as they are an inherent quality of the birds’ bodies themselves, and so cannot be easily replicated by other birds in order to achieve displaced reference, simply due to the fact that birds do not have the ability to rearrange their patterning in order to imitate another individual (while their abilities to imitate acoustic signals are quite impressive).

While these visual names can certainly be considered personal names in that they refer to a single, individual organism, and while they may be accompanied by acoustic names that may also be used in calling behaviors (Sebeok 1986), there seems to be a need for a differentiation between what I will term ‘displaced personal names’ and ‘nondisplaced personal names’. Displaced personal names are signs of individual identity that can be replicated in the absence of their referent. This is the case with the acoustic names of the dolphins and birds mentioned above, as well as human vocal names. Nondisplaced personal names do not occur in the absence of their referent, and yet are still personal names in that they are semiotic indications of an individual organism.

One of the potential qualities of a displaced personal name is that it has the ability to have a more arbitrary or conventional relationship with its referent. When a name can be separated from its referent, its form is less limited by the particular physical attributes of that referent. This is often correlated with the particular sensory modalities through which the name is conveyed.

2.1.2. Intentionality and Modality

As addressed in the preceding section, some issues of referentiality are closely linked with sensory modality. The call names observed in species of birds and dolphins are available to be used as such because they are communicated acoustically.

Other signs that indicate identity could easily come from any number of other modalities. It is important to note that the species mentioned above already make extensive use of the acoustic channel for other communicative tasks. In dolphins and birds, this may simply be a consequence of their environment. Both live in environments with the potential for low visibility and operate socially over extended areas. In humans, extension of personal naming behaviors into the acoustic realm—something that has not been observed in other species of apes—is perhaps simply a consequence of a certain predisposition for vocal expression effected by our linguistic activity.

This human activity certainly affects our perception of the communicative activities of other animals, yet the majority of organisms on this planet do not possess an acoustic sense.

Within their personal phylogenetic constraints, species have chosen and molded sensory channels in astonishingly diverse combinations [...] Consider butterflies again: like moths, they use sex pheromones extensively, but unlike moths, they transmit the pheromones principally by contact or through air over distances of no more than a few centimeters. The reason for this curtailment may well be that the thermal updrafts and turbulence of the daytime atmosphere preclude the formation of long active spaces. Ethologists have had no difficulty making such correlations between environment and sensory modes across widely separated phylogenetic groups. Some of the best evolutionary reconstructions have traced shifts from one modality to another at the species level and are based on enough detail to be fully persuasive. (Wilson 1980: 117)

Since several species can communicate without using the acoustic channel, we could expect to find examples of naming behavior that is dependent upon other sensory modalities. Some examples of this have already been discussed in the previous section.

The nondisplaced names of many species of birds and various other animals are manifested in their external physical appearance, which Adolf Portmann (1990) terms the *semantic organ*.

Animal surfaces represent additional organs or rather organ systems *as real as* the other organs or organ systems such as liver, lungs, pancreas, nervous system etc. This does not mean, however, that the properties of the inner anatomical and molecular constitution of an organism have no effect on its external display. Semantic organs are visible motifs of animal display that are partially dependent on both out (skin, coat) and inner (skeleton, muscles) constitution of a body. As Portmann (1960a: 222) has aptly shown, also the colour of inner organ systems such as blood vessels and molecular qualities of haemoglobin (redness) may contribute to the external appearance of an animal. The organs of visible surfaces are rather co-structured by various constituents in the same way as the lungs, for example, are interlaced with nerves, blood vessels, integuments etc. (Kleisner & Markoš 2009: 304)

The mere presence of a physical body is often enough to guarantee a constant stream of visual information, so many names are unsurprisingly transmitted via a visual channel.

Of course, other modalities are also capable of transferring the information necessary for naming. Ants perform most, if not all, of their communication through chemical signaling, and while the majority of ants seem to lack names entirely, a clear exception is the colonial queen. The queen retains her role as queen by constantly secreting particular pheromones that are produced by her alone and spread throughout the colony as a sign of her health and authority. This ‘queen substance’ is a chemical personal name that, while only produced by the queen, is physically displaced throughout the colony.

Nondisplaced names are very common across different species and different modalities. In many species, they are almost constantly broadcast. Even acoustic calls have qualities that can serve as nondisplaced personal names. The quality of the acoustic signal itself, a consequence of the specific physical arrangement of the vocal organs in the individual animal producing the sound, can serve as a nondisplaced name (nondisplaced due to the unique nature of that animal’s vocal organs. For example, humans easily recognize each other by the sound of their voices and yet are unable to accurately replicate the qualities that lead to that recognition (except in the case of talented impressionists).

The literature on vertebrate communication takes it for granted—at least *ex hypothesi*—that indicators (i.e., their own names) are universally incorporated into all messages of birds and mammals (Smith 1969a, 1969b)” (Sebeok 1994: 38)

McCowan & Reiss (2001) offer a criticism of the signature whistle hypothesis identifying acoustic displaced names in dolphins that is built on the assumption that whistle differentiation must depend on variation in frequency patterns. However, the

authors state that individual differentiation is, in fact, achieved through other factors of acoustic variation in contact whistles.⁹ While this may challenge the existence of displaced personal names in dolphins, it confirms the presence of nondisplaced names related to signal quality.

An interesting observation related to the difference between displaced and nondisplaced personal names is that displaced personal names are more efficient and effective in signifying the identity of an individual. Displaced personal names often seem to supersede nondisplaced names in that while several nondisplaced names seem to co-occur in order to contribute to the process of reference, displaced names in themselves encapsulate the entire individual. This occurs, of course, due to their very nature as displaced and nondisplaced names. In the presence of an individual, more than one nondisplaced name is often available, whereas in the absence of an individual, the displaced name must refer to the individual without further semiotic support.

Consider the personal names of humans. Clearly, human vocal personal names are entirely capable of displaced reference, but are not necessary for the recognition of an individual person, which can easily be accomplished through facial recognition, voice recognition, behavioral recognition, etc. In the course of typical social interaction, all or many of these nondisplaced names will co-occur, and these will all contribute to the process of reference. A displaced name, however, will serve as the sole referent of an individual, superseding the ‘distributed identity’ communicated by a collection of nondisplaced names.¹⁰

It is interesting to note that while displaced names may have a higher level of semiotic complexity, there is empirical evidence that certain nondisplaced names, especially the particular appearance of the face, have a much deeper level of cognitive support in humans. For example, prosopagnosia is a cognitive deficit associated with damage to a particular brain region that prevents facial recognition while having no noticeable effect on other cognitive processes. Similarly, Capras syndrome, caused by damage to a different area of the brain, prevents appropriate emotional processing

⁹ This, of course, raises the question of exactly how much difference is required before whistles are classified as different. The problem is confounded by the fact that, at this point, there is no definitive data on what acoustic variation is perceivable by dolphins and what variation then becomes meaningful in determining difference.

¹⁰ It is perhaps worthwhile to note that human vocal names are the only proper displaced name in use among humans, so that a photograph of an individual is not a sign of that individual, but rather a sign of the nondisplaced name of that individual’s physical appearance—in other words, a (primarily iconic) sign of a (primarily indexical) sign.

associated with faces. Sufferers will believe that those close to them are no longer present, but have been replaced with different people who look exactly the same, but are not identical. This delusion does not extend to other personal names, so that sufferers will have appropriate responses to the sound of someone's voice, a nondisplaced name.¹¹

The ability of displaced personal names to so effectively communicate the totality of individuality may be indicative of the implied intention and communicational awareness that accompanies their use. Certainly name calling behavior requires awareness of not only the particular referential quality of a displaced name, but also an understanding that its use will elicit a certain behavior in the called individual. The fact that the process of broadcasting a call or reproducing a displaced name is much more energetic than the production of many nondisplaced names implies that the extra energy and mental faculty conveys certain benefits to the organisms participating in these behaviors. Given these observations, it makes sense to model nondisplaced names as primary, as they imply much lower degrees of intentionality and energetic communication, and most likely precede displaced names in an evolutionary sense.

Bradbury & Vehrencamp (2000) have modeled the economic viability of communication, demonstrating that it makes sense for intentional communication to originate with signals that are already interpreted.

Comprehension of the signals of others is possible even without there being any communicative intent on the part of the sender – very likely our pre-linguistic ancestors were already trying to figure out each other's intentions (Bickerton, 2003). (Johansson 2005: 19)

This may explain the evolutionary progression from nondisplaced, unintentional names to displaced, intentional name calling behaviors, which may be one of the most complex manipulations of personal names. This should not, however, diminish the importance of nondisplaced personal names—or personal names in general—for the social and biological characteristics of animal species of all kinds.

2.2. Individual Identity and Social Organization

The use of personal names is inextricably linked to the recognition of individual identity. Here I define 'individual identity' as the modeling of a particular, singular

¹¹ The sufferer will only have an appropriate response if the speaker is out of sight, otherwise the inappropriate response to the face interferes.

organism as that particular, singular organism, and ‘personal name’ as some semiotic representation of an individual (encompassing all forms that representation may take, as explored in previous sections). So the recognition of individual identity is simply the recognition of an organism as itself—as an individual that is not identical to any other individual.

The recognition of individual identity is entirely dependent upon the communication of personal names—in some respect (usually unintentional and nondisplaced)—and the communication of personal names is entirely dependent upon the recognition of personal identity. The recognition of individual identity *is* the interpretation of a personal name. The processes are entirely identical. We have already established that personal names are relatively simple communicative entities. They simply refer to one thing—the individual. So in the use of a personal name, the recognition of the individual is necessarily implied.

The following sections will demonstrate that this function (the recognition of individual identity) is a fundamental feature of certain social organizations, and in fact provides the basis for the division of social systems into two basic categories which are closely linked to reproductive strategy—one of the most basic factors in the proliferation of life.

2.2.1. Identifiers

A useful typology for considering the nature of signs of personal identity (personal names) is that of *identifiers*, used by Sebeok (1986, 1994) in his exploration of naming in animals, and originating in the work of Charles Morris (1971). Identifiers are a class of signs that communicate certain information about the nature of their bearers, so they contribute not only to the recognition of individual identity, but to a host of other organismal characteristics.

Every organism conveys certain information about themselves just by virtue of their having physical presence in the world. These identifiers can communicate a wide range of information to other organisms (both conspecifics and heterospecifics), such as sex, age, readiness to reproduce, location, health, etc.

It is well known that all animals broadcast a steady stream of ‘identifiers,’ that is, displays identifying their source in one or more ways: as to its species, reproductive status, location in space or in time, rank in a social hierarchy, momentary mood, and the like. (Sebeok 1972: 130, qtd. in Sebeok 1986: 83-84)

As signs, the physical properties of a particular organism become identifiers when they are interpreted by another organism. So the information conveyed by identifiers must not only be available to the perceptual capabilities of an interpreting organism, but also must be interpretable; that is, they must convey information that is meaningful in terms of certain actions that an interpreter might take in relation to the organism from which the identifiers originate.

Considering the information available from identifiers, an organism will react appropriately in order to have a particular effect on the bearer of the identifier. For example, upon encountering a female conspecific in good health and displaying signs of estrus, a male organism may attempt to engage in mating behavior. In order for this action to be successful, the male must be aware of the female's location, the performance of any species-specific mating rituals, and various other factors. All of the information involved in this interaction is available to the male through identifiers originating in the female.

Identifiers can be classified according to the information that they convey, regardless of modality, so that the male organism above might identify the female as a conspecific by visual means while recognizing estrus in his potential mate through pheromones perceived olfactorily.

Many identifiers have the effect of characterizing organisms according to certain groups or sets to which they belong, which, in practice, represent a limited number of discrete possibilities.¹² Some of the most general sets include the set of dead or alive organisms and the set corresponding to species. Knowledge of both of these sets may be available to heterospecific organisms, and are important considerations in the feeding behavior of many predators and scavengers.¹³ More specific sets include those relating to the sex of the animal, specific social castes, or anything that divides a population into subsets that determine interactional behavior.

What we are primarily concerned with here is the communication of individual identity, the smallest, most specific set. While other identifiers may contribute to the meaningful interpretation of this particular identifier (in much the same way that facial recognition, voice recognition, and other nondisplaced name processes contribute to the

¹² Other identifiers identify their bearers according to more continuous characterizations, such as location, health, age, etc.

¹³ Identifiers relating to these sets are sometimes manipulated to avoid predation or other purposes. For example, an animal might 'play dead' or mimic another species more dangerous or poisonous than itself.

recognition of human identity), it is this identifier that most significantly determines the interactional dynamics of an organism. While nearly all identifiers partly define the nature of interaction (such as attempted mating versus attempted eating) where they are present, identifiers that indicate individuality have perhaps some of the greatest effects on the basic principles of social organization.

In Portmannian perspective, an aptitude for mutual understanding sprouts from the very accent on selfhood of every living being. The importance of this self-relation is manifested by the vital processes of self-construction, self-maintenance, self-identification, and, definitely, *self-representation*. Perhaps these features characterize every living being, and just these are lacking in inanimate nature. (Kleisner & Markoš 2009: 302)

2.2.2. Social Organization and Interindividual Relationships

The presence or absence of personal names (or the recognition of individual identity) is one of the most significant factors determining the nature of social systems. This factor is an indication and cause of the organization of social systems into two distinct possibilities. Sebeok (1986: 84), based on Wilson (1971: 402) identifies two different forms of social systems based on this distinction: *personal* and *impersonal*. A personal social system is built on the recognition of individual identity, which forms the basis of its structure. An impersonal social system is built on the lack of this recognition, which similarly determines its structure.

Interestingly, the division between personal and impersonal social systems seems to loosely correspond with certain biological divisions. In addition to the obvious examples of certain species of birds and dolphins mentioned above, many (perhaps all) vertebrate species seem to recognize personal identity and exist in personal social systems:

Vertebrates, in contrast, generally have the power of personal recognition. It is probably lacking in schooling fishes, in amphibians, and in at least the more solitary reptiles. But personal recognition is a widespread and possibly universal phenomenon in the birds and mammals, the two vertebrate groups containing the most advanced forms of social organization. (Wilson 1980: 182)

This seems to be a fairly limited phenomenon, however, as “Only a few cases of truly personal recognition have been documented in the invertebrates” (Wilson 1980: 182).¹⁴

¹⁴ The two exceptions listed by Wilson are explained as having developed individual recognition in order to “cope with specialized ecological requirements” (Wilson 1975: 182) Here again we see that specific ecological requirements are a significant force in the development of certain communicative activities (as previously suggested as an explanation for the lack of personal names among the Machiguenga as well as the deviant linguistic characteristics of Pirahã)

So while personal names are certainly present in some nonhuman animal species, they are, in fact, quite rare, and correspond with quite complex social organization. This does not mean, however, that impersonal social systems are unorganized. Impersonal social systems can reach very high levels of coordination to the point where sometimes communities of organisms in such social systems effectively function as a single organism. The difference here is that instead of social systems based on individual identity, impersonal social systems are built on less specific sets of organisms.

For example, the impersonal social systems of the colonial insects (such as ants and bees) are built on social caste as the most specific recognized categorization. Within social castes, there is no differentiation between different individuals: “They can recognize castes but not individual nestmates. In a word, the insect society is based upon impersonal intimacy.” (Wilson 1980: 179)

Like individual identity, this social caste of an individual defines the role that the particular organism plays in the community as a whole. The only difference is that many other organisms occupy this same exact role as well. It is interesting to note that in a typical colony structure, the queen can be said to be the sole member of her caste, a situation that leads to the only instance of individual recognition within these insect societies. Other invertebrates that do not live in organized colonies might recognize sex as the most specific organizational category, while those that are hermaphroditic might only have specific recognition of species.

Implicit in the recognition of individual identity in personal social systems is the fact that relationships between different organisms can be unique. When an animal has the ability distinguish between different conspecifics, the animal has the possibility to have a different relationship with each of them.

One of the most significant consequences of personal social systems is that they allow for the possibility of differing relationships between individual organisms. When an individual A can recognize that individual B is distinct from individual C, then individual A is endowed with the ability to have a relationship with B that is distinct from C. Theoretically, there is no limit to the differently-natured relationships that an individual can partake in with other individuals. Alternatively, those animals that do not recognize the individual identity of conspecifics will necessarily have the same relationship with each other.

Of course, in animal societies organized as impersonal systems, the relationship between one individual and every other individual is exactly the same (except when specified to some extent by factors such as sex, but even then an individual would have only two different relationships with the two different sexes). There is no opportunity to develop differing relationships, as there is no way to distinguish any individual with which a relationship might differ.

Many ant colonies, for example, rely on a “worker” class of sterile females to carry out many functions within the colony, such as caring for the larvae, gathering food, and maintaining the nest. Some ant species have a few different social classes carrying out different roles (such as “soldiers”, “workers”, etc.). While the social relationships between these different classes necessarily differ, no one individual organism occupies any social role alone. There are always other individuals who play the same role and have the same relationship with every other individual within the colony.

Of course, the queen is one major exception to this, but only implies a unidirectional differentiation. In other words, the queen has an identical relationship with every individual in any particular caste, but for every other colony member besides the queen, their relationship with the queen is unlike their relationship with every other member of the colony. The queen of social insect colonies is the only individual organism within those colonies for which individual identity can be said to exist. There is only one queen per colony, and she occupies a social role within that colony that is occupied by no other individual.

The personal social systems discussed above, effected by the recognition of individual identity, can be modeled as a weighted network, where links between nodes have different values, or ‘weights’. With nodes representing individuals, and the links between them modeling their relationships with other individuals, a weighted network is created when these relationships are differentiated—a process that only occurs in personal social systems. In impersonal societies like those of ants, individuals will not have interindividual relationships of different weights, but will have a predetermined relationship weight for each social caste. This relationship weight will apply to an entire class, with no differentiation between different individuals.

Of course, relationships between individuals in personal social systems is much more complex than a simple, one-dimensional value system. An organism may have a ‘potential mate’ relationship with one individual, a ‘parent-child’ relationship with

another individual, a ‘competition’ relationship with a third, and a ‘cooperative food sharing/offspring rearing’ relationship with a fourth. Even these relationship types are too general in many cases. Relationship differentiations can become very complex and specific in nature, as is obvious from our own experience. It would be perfectly reasonable for my own relationship with another person to consist entirely of meeting every other Thursday for lunch at a certain restaurant in order to discuss recent developments on our favorite television program.

Personal social systems are also characterized by the possibility for flexible social dynamics due to the changeable nature of these differentiated interindividual relationships. Vincent Janik, a prominent researcher into the signature whistles of dolphins, has stated that “group changes are incredibly dynamic, and you need a way of knowing exactly who's around you [...] Dolphins often prefer to spend time with particular individuals.” (Owen 2006)

3. EVOLUTIONARY CONSIDERATIONS

3.1. Evolutionary Dynamics of Individual Recognition

Based on the social factors involved in the development of personal names and personal social systems, certain observations can be made about the specific evolutionary developments that accompany the emergence of personal names:

Wilson noted (1971b:402) that “the best organized societies of vertebrates can be distinguished by a single trait so overriding in its consequences that the other characteristics seem to flow from it.” This pivotal trait is, of course, the recognition of individual identity. (Sebeok 1986: 88)

While this implies a directional evolutionary process from names themselves to other animal behaviors, it is perhaps more useful to consider all of these traits as products of a process of co-evolution. In other words, while the recognition of individual identity mediated through personal names is necessary for many of these behaviors, the pressures to develop these behaviors (through processes such as adaptation to certain environments with limited resources) may have also led to the development of this particular semiotic activity.

One of the most salient behaviors associated with the recognition of individual identity is territoriality, wherein an organism establishes a particular area as its own, an activity that guarantees the organism access to all of the resources in that area without competition. In order to maintain a territory, an animal must project its claim through semiotic means. The animal must therefore be able to distinguish between signs of itself and signs of other individuals.

While this is not equivalent to individual recognition, it is a significant step towards the more complex social structure in that it indicates a certain degree of social agency—that is, the ability of an individual to actively participate in social interactions. However, observed territorial behavior involves more than just social agency. Since the extent of an animal’s territory necessarily relies upon the extent of the neighboring

territory of conspecifics (usually of the same sex), recognition and differentiation of its neighbors are essential (Sebeok 1986: 88). Many specific examples demonstrate this need:

Among species of the higher vertebrates it is commonplace for individuals to be able to distinguish one another by the particular way they deliver signals. Indigo buntings, American robins, and certain other songbirds learn to discriminate the territorial calls of their neighbors from those of strangers that occupy territories farther away. When a recording of a song of a neighbor is played near them, they show no unusual reaction, but a recording of a stranger's song elicits an agitated aggressive response. (Wilson 1980: 102)

Here, birds recognize their individual neighbors and so expect to encounter their neighbors' song-names. When the bird hears a song-name that it does not recognize as originating from one of its territorial neighbors, it perceives that its territory is being threatened by some transient and reacts in order to defend it. The bird is clearly making use of personal names as markers of the individual identity of its territorial neighbors in order to judge the need to maintain or defend its own territory.

Wilson observes a similar pattern in male wildebeests, which perform a challenge ritual each day to affirm their territorial claim.

The apparent function of the challenge ritual is to reaffirm the male's property rights while testing those of his neighbors. The territorial owner seems to recognize his neighbors personally, and the exchanges are marked by what can be reasonably called mutual restraint. (Wilson 1980: 235)

Territoriality itself is basically a claim of certain resources aiding in either personal survival (e.g. food) or genetic survival (e.g. potential mates). The need for various resources to be claimed in such a way suggests that the total available resources are limited. In the case of energetic and nutritional resources, this may be a consequence of the particular ecological niche occupied by the species. The competition for these resources ensures that the genetic material of those who are better able to compete is replicated.

The preservation of resources is not limited to solitary animals, and another example of animal behavior that seems to be heavily rely on an individual's ability to recognize individuality is long-term mating behavior, or really any mating behavior that involves two mating organisms being in reproductive association that extends beyond a single sexual event when other sexual partners are available.

When more than one potential sexual partner is present, an individual engaged in a long-term mating association must differentiate between its mating partner and other conspecifics with which it has a non-mating relationship.

This particular reproductive strategy often involves the sharing of resources and resource-gathering activities between paired individuals, and so, like territoriality, may also be driven by the need to secure resources that would otherwise be scarce.

Mating pairs will also typically participate in cooperative rearing of offspring, an activity typically requiring a division of tasks, often necessitating the physical separation of the pair, sometimes for extended periods of time. If a mating pair is not able to recognize each other, there is no way to maintain the association.

The very action of rearing offspring is often necessitated by the existence of complex personal social systems, as animals that have these complex systems often require extended periods of social bonding. Many species that do not recognize individual identity require much less time in close contact with caretakers. Their genetic makeup is usually sufficient for their effective survival. This is not the case in species that form social systems wherein interindividual relationships are differentiated and dynamic.

This is partly due to the simple fact that there is simply too much potential social information relating to too many potential social actors to be accounted for in the genetic code. In a complex personal social system, the flexibility of the social system makes any hard-wired sociality next to impossible. While most, if not all, of the social interactions in species like ants are genetically determined, animals in dynamic social systems must *learn* how to function properly in a social environment. Organisms must then rely on extended periods of social bonding and, in some species, stable social constructs preserved by cultural transmission.

A natural consequence of this need for increased socialization is the extension of maturation time, necessitating a greater investment of energy in offspring, which, in turn, leads to a greater valuation of that individual as an individual. If an organism invests large amounts of energy into the rearing of its offspring, it will be much more invested in the survival and success of that offspring.

In turn, this supports the mechanisms through which individual recognition is possible. A greater valuation of a particular individual means that it makes much more sense to maintain a personal relationship with that individual to ensure survival and success. The recognition of individual identity and the investment of larger amounts of energy into the rearing of offspring are two patterns that support each other, and good could very well be explained by a process of co-evolution.

An interesting connection can be drawn here to r/K selection theory, which groups species by their survival strategies (MacArthur and Wilson 1967; Pianka 1970). K -selected species tend to have a larger body size, invest more energy into raising offspring, have fewer offspring with a long period of maturation, have a longer life expectancy, and display a higher individual intelligence. The opposite traits are found in r -selected species, which tend to reproduce quickly, cheaply, and in great numbers.

The principle of r/K selection is based on an equation of population dynamics in which the r variable represents the maximum growth rate of the population and the K variable represents the carrying capacity of the environment. There is a necessarily limited amount of resources in any ecological niche, which limits the maximum growth rate of any population. However, the amount of resources available in some ecological niches is much more limited than in others (in relation to what is required to maintain the current population), so the competition for those resources is much greater. So K -selected species, facing greater competition, have evolved to be better individual competitors, while r -selected species have evolved to reproduce as quickly as possible in order to take advantage of the available resources.

In the r -selected species, it makes no sense to invest a large amount of energy in the raising of offspring. The capacity to reproduce so quickly means that the success of the individual is much less important.

Interestingly, in social insect colonies, the queen shows some characteristics of K -selected animal species, such as a larger body size and increased longevity. They also seem to be more adaptable in regards to the role they play within the colony. Certainly for most of their lives queens do little more than lay eggs, but often they must, at some point, perform the tasks of other social classes. This is particularly relevant to the beginning of a queen's life, when she may be expected to fight other ants (especially other queens), excavate the beginnings of a nest, find food, and rear the first generation of workers.

The ability to operate in complex, dynamic social systems implies the possession of the cognitive capability to manage those relationships. So far, I have discussed differentiated relationships as though the recognition of individual identity guaranteed the ability to engage in social organizations that are potentially infinitely complex. This, however, is not the case. In order to maintain a relationship of any type with another individual, an organism must be able to conceptualize and remember that relationship. It is not surprising, then, that K -selected species typically have higher levels of individual

intelligence. Even higher cognitive function is necessary to process the interindividual relationships between other individuals within the social group:

Vertebrates are also capable of quick forms of learning that fit them to the rapidly changing nexus of relationships within which they live. When an ant colony faces an emergency, its members need only respond to alarm pheromones and assess the general stimuli they encounter. But a rhesus monkey must judge whether the excitement is created by an internal fight, and if it is, learn who is involved, remember its own past relation to the participants, and judge its immediate actions according to whether it will personally benefit or lose by taking action of its own. (Wilson 1980: 182)

Personal social systems lead to higher cognitive functions and extended social bonding. Interestingly, they seem to correlate with animal behaviors associated with emotional attachment. These characteristics alone are so pervasive in our own species that the importance of individual identity is painfully evident. It is the cornerstone on which our very humanity is built, and is without question one of the most pervasive and influential characteristics of animal behavior. It is no surprise, then, that many scholars point to the ability to operate within these complex social systems as a significant factor in the evolution of human language.

3.2. Names as Preceding and Necessary to Language

The origins of language have been a favorite topic of speculation for at least thousands of years. Language use is, after all, a uniquely human behavior. It is so unique that scientific inquiry into the matter is very complicated and unclear. Even armed with modern scientific findings, definite answers are hard to come by. There are, however, some things we *can* say about language evolution based on certain patterns that seem to pervade the biological world as well as more useful tools to aid in analysis of language use itself.

There is much we still do not know about the origin of language, and much that we may never know. It is an issue of enormous complexity. But the field is not totally devoid of relevant data, and it is not open to unbridled speculation once all pertinent data are taken into account – the dictum of the Linguistic Society of Paris from 1866 is no longer motivated. (Johansson 2005: 246)

It is in this spirit that the analysis of the nature of personal names can provide some useful answers to some of the questions related to this difficult endeavor.

Currently, most research into language evolution deals with the development of the cognitive abilities to process language—also called the ‘language faculty’. Here we find a significant amount of theorists who rely upon the pre-existence of personal names

and the personal social systems they create in order to account for this powerful evolutionary development.

As mentioned in previous sections, the weighted social networks found in personal social systems are much more complex and dynamic than the social networks found in impersonal social systems as found in colonial insect species. Maintaining a complex, dynamic social system requires certain abilities allowing for the manipulation of information within individuals and the transfer of information between individuals. It is only possible among species with higher individual intelligence and the ability to transfer a large amount of social information within the network.

The solution to the dilemma lies in the evolution of social intelligence, starting with the recognition of other individuals, remembering past interactions with each individual, and differentiation of behavior towards other individuals depending on their past behavior. But in a large group, this taxes the brain power of most animals, limiting either the group size or the complexity of the social system (Dunbar, 1993). (Johansson 2005: 210)

A static status hierarchy is a common solution with limited cognitive demands—but the complexity rises fast if the status hierarchy isn't static, and if status relations aren't transitive. (Johansson 2005: 210)

Animals living in impersonal social systems have no need for extensive cognitive abilities to maintain order since their social hierarchy is static. Since social relations within these societies are completely inflexible, they are able to reach very large sizes and may consist of thousands of individuals without taxing the cognitive abilities of the individuals. In fact, since these societies are organized purely by castes, the addition of an individual in any caste in no way taxes the social intelligence of any other individual, allowing for theoretically unlimited growth (as far as social limits are concerned). The exception to this, as we have seen, is the queen, which, as the sole carrier of individual identity within the social insect colony, often cannot coexist with another queen¹⁵.

We humans and our closest biological relatives operate in a much more complex social system, and the cognitive demands of this complex system are often cited as a major contributing factor in the evolution of some of more complex social functions. In fact, it is this need to participate in complex social environments and navigate complex political situations in order to guarantee our survival that may have been a primary force in our cognitive evolution (Joffe 1997).

¹⁵ There are, of course, exceptions to this rule, but for the most part colonies rely on a single queen as the sole carrier of individual identity. Situations deviating from this norm are often unstable and seem to be the only source of conflict within colonies.

As language is often considered to be the apex of human cognitive abilities, it is no surprise that many scholars have proffered these social pressures as the primary mechanism behind the evolution of linguistic systems.¹⁶ The linguist Stephen Pinker, himself a proponent of an innate universal grammar, has commented that such complex cognitive mechanisms are hardly needed to guarantee survival in the face of natural threats, but would serve quite useful in the political struggle against other humans (Pinker 1994).

While complex cognitive functions may be associated with a higher level of social interaction, there is also evidence to suggest that language learning and language processing depend on these same functions. The first indications of a connection between social learning and language learning come from the many attempts to teach human language (or some semblance thereof) to nonhuman animals. The subjects in these experiments have been of a variety of species to which a high level of intelligence is typically ascribed, including parrots, dolphins, and other apes.

It is interesting to note that all of these species are highly social and display complex group dynamics (Johansson 2005). This alone hints at some connection between complex social functions and language learning, but the evidence extends beyond this simple correlation. Not only do highly social species outperform others in their language learning abilities, but they also outperform conspecifics when the language learning occurs in a social setting (Johansson 2005). So not only is social interaction important for the development of the appropriate cognitive capacities, but also for the act of learning itself. This is perhaps not so surprising given the fact that language is in itself an entirely social phenomenon.

Therefore, it is entirely reasonable to posit that the evolutionary development of complex social interactions is a prerequisite for the evolutionary development of linguistic systems. More specifically, the highly complex nature of these social systems may be quite implicitly involved in establishing the particular evolutionary pressures that would encourage the development of such a complex system of communication.

¹⁶ In this context, the concept of 'language' most accurately refers to systems of syntactic and symbolic processing. While language in its current form clearly relies on much more than just the ability to manipulate complex syntactic structures, this is often considered to be the most difficult task in terms of cognitive demands and has often been the only factor in differentiating language from other behaviors seen in non-human animals. It is therefore the main object of research for most investigations of language evolution.

In order to maintain these complex social systems, an enormous amount of information must be transferred between individuals and held in the memory of individuals in order to ensure that the individual can successfully function in a social system full of potential missteps and pitfalls that could significantly damage the status of the individual within the group, threatening survival. Johansson (2005: 126) claims that the development of systems that successfully transmit information may help gain status within the social group (which, he notes, is only possible if the social dynamic is changeable, implying a weighted social network).

Many scholars have proposed certain cognitive prerequisites for the cognitive processing of fully formed language and the symbolic thought that is intricately involved in its manifestation. Among these proposals are the need for a certain level of self-awareness and intentionality (Sinha 2004). Several scholars have used the term *embodiment* (Lakoff & Johnson 1999; Zlatev 1997) to describe the particular cognitive state necessary for linguistic thought, which Johansson describes as

a suitable biological development program, an appropriate sociocultural environment, and the ability to have a place in and be an active agent in this environment (Johansson 2005: 227)

Many, if not all, of these requirements assume the existence of a personal social system, a basic parameter of social organization upon which all higher organizational systems are necessarily built.

While language might indeed depend upon highly complex—and therefore necessarily personal—social systems, humans are not unique in this particular social organization, as has been demonstrated extensively in earlier sections of this work. These facts logically lead to the question of why linguistic ability seems to be confined to one species out of many that operate within similarly complex social structures.

The social systems of humans have sometimes been identified as some of the most complex social systems: “we are more *deeply* social than any other species on earth in our cognitive makeup” (Whiten 2000: 477, emphasis in original, qtd. in Johansson 2005: 208). Other scholars similarly claim that the organization of human social groups is much more complex than that found in the social groups of other animals (Leigh 2001).

High levels of social intelligence are not enough, however, to account for the nature of linguistic systems themselves, which rely on complex structures of meaning and syntax that interact in highly complex ways. There are some who point to personal names and the actual *structure* of personal social systems as significant in shaping the mind into a language machine.

Aiello (1998: 29), for example, finds similarities in the types of cognitive processes required for all levels of language processing (components determining the semantic characteristics as well as syntactic structures) and the cognitive processes active in complex social interactions. This suggests that cognitive structures responsible for language were co-opted in the course of language development.

Deacon (1997: 204-205) also proposes that specific social situations—specifically the need to maintain stable mating relationships within larger social groups—provided the evolutionary pressures that led to the development of the language faculty.

One useful observation originates with the structure of names themselves. As human vocal names seem to have share some characteristics with other linguistic elements (such as their ability to refer to an object in the absence of that object), they also differ significantly in some other elements (such as their participation in phrasal structures and their semiotic characteristics). The nature of this relationship suggests that names are perhaps a more simple form of words, and some researchers claim that their structure served as a basis or template for other language features:

Names are the basic entity-category, minimally subclassified and endowed with the capacity for primary identification via onymic reference; and they are the basis for the structure and development of other categories—including, most directly, of pronouns and nouns. But their centrality is also attested to by their essential presence in the implementation of grammar in the form of referential utterances that do not have to depend on indefinitely recursive descriptions [...]. Names are obviously not sufficient to make a linguistic system, but they are necessary: name-free full linguistic communication is not an option. (Anderson, 2007: 332-3)

But if names are something of a proto-linguistic sign, then how are they able to function in relation to linguistic systems at all?

Jackendoff (cited by Botha (1999)) instead resolves the paradox by arguing that language isn't perfect, that it does have the patchwork character typical of evolved systems. Marcus (2004c) takes this argument one step further, identifying patchwork candidates in our language capacity, 'fossils' of its evolutionary history." (Johansson 2005: 166)

The evolutionary history of any complex system, such as human cognition or the human language capacity, necessarily starts with something simpler. That is not to deny that evolution can sometimes simplify. But the dominant evolutionary trend is from simple to complex, and the original protosystems were undoubtedly simple. It is accepted as a working hypothesis that a precursor of the modern human language capacity for complex syntactic language was a capacity for protolanguage [...], a kind of communication system with no syntax. In protolanguage,

although words may have been uttered in short sequences, there were no rules defining the wellformedness of strings, and therefore words in protolanguage could not be said to belong to separate syntactic classes, such as Noun or Verb. (Hurford 2001: 119)

Similarly, Bates states that “[l]anguage is a new machine that Nature built out of old parts.” (Bates 2003: 263, qtd. in Johansson 2005) Based on their limited participation in various linguistic systems, their unique semiotic nature, and their close involvement in creating the social situations which seem to be essential to language evolution, it seems that a safe claim would be that names are essential to linguistic systems and necessarily precede them.

CONCLUSION

This work presents an account of personal names in the context of various semiotic systems, and reaches several conclusions based on an analysis of their behavior in such systems. Their nature as signs that directly and non-deictically refer to singular individuals while conveying very little other information places them in a unique position in these various semiotic systems.

It has demonstrated that human vocal names have been shown to have a very different referential structure than most linguistic signs. Personal names also do not conform to typical syntactic determination, occupying the role of an entire phrase instead of participating in any phrasal structure. Personal names are unique in their semantic structure, being irreducible and having direct reference that supersedes context.

Based on this data, a conclusion is made that the semiotic nature of personal names is not primarily symbolic, but essentially indexical, displaying characteristics more typical of nonhuman animal communication than natural language.

Based on this determination, this work investigated the presence of names in animal communication, and found them to be present (sometimes in a form almost indistinguishable from human name use). The presence of names was indicative of certain social arrangements that influence the evolution of language.

Therefore, I conclude that personal names are semiotic interlopers partially integrated within linguistic systems and yet not fully belonging nor participating. At the same time, they create social situations that seem to directly influence the evolutionary development of language while also possibly serving as a model for other linguistic elements.

By this account, human vocal names are a linguistic (or perhaps semi-linguistic) expression of a much simpler and older signform that still retains much of its indexical nature.

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SUMMARY IN ESTONIAN

Personaalsed nimed kui prelingvistilised märgid

Summary

Käesolev töö käsitleb personaalseid nimesid erinevatest vaatenurkadest, et määratleda nende seost naturaalse keele ja selle evolutsioonilise päritoluga. Siinkohal on *personaalne nimi* defineeritud mitte-deiktilise märgina, mis viitab üksikule individuaalsele organismile. Selle definitsiooni järgselt ei ole personaalsete nimede kasutamine piiritletud inimestega. Sellest tulenevalt on kasutatud andmeid nii inimeste kui ka loomsetest semiootilistest süsteemidest.

Järgnevalt on vaadeldud personaalsete nimede käitumist inimeste semiootilistes süsteemides – nii kultuurilistes kui ka lingvistilistes. On näidatud, et personaalsed nimed omavad mitmeid unikaalseid omadusi, mis eristavad neid teistest märkidest. Arvesse on võetud personaalsete nimede andmise kalduvus loomade seas ja käsitletud mitmeid probleeme. Personaalsed nimed on loomade käitumises laialt levinud, neid seostatakse sotsiaalse organiseerumise põhiliste omadustega.

Viimaks on uuritud andmetes esinevaid viiteid arengulistele iseärasustele, pöörates tähelepanu inimkeele evolutsioonilisele päritolule. Autor järeldab, et personaalsed nimed on tunduvalt lihtsamad ja vanemad kui ülejäänud lingvistilised märgid, mis eelnevad keele arengule.

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